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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/808,757	03/25/2004	Masanori Hashimoto	FUJY 21.080	5866

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EXAMINER	
HUYNH, NAM TRUNG	
ART UNIT	PAPER NUMBER
2617	
MAIL DATE	DELIVERY MODE
08/17/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/808,757	HASHIMOTO ET AL.	
	Examiner	Art Unit	
	NAM HUYNH	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 July 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,5-15,21 and 26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *6,7,10-12 and 15* is/are allowed.

6)☐ Claim(s) *1,2,8,9,13,14,21 and 26* is/are rejected.

7)☒ Claim(s) *5* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6/22/09 has been entered.

Response to Amendment

This office action is in response to amendment filed on 6/22/09. Of the previously presented claims 1, 2, 5-15, 21, and 26; claims 1 and 5 have been amended.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claims 1, 2, 21, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hogan et al. (US 2003/0040314) (hereinafter Hogan) in view of Minagawa (US 6,510,318).

Regarding claim 1, Hogan teaches a terminal status control system comprising:

a registration table in which information concerning a terminal that is allowed to use a specific base station is registered (paragraphs 12, 43; database or list);

a judging unit judging whether a terminal that has entered a cell of the specific base station is the terminal registered in the registration table by referring to the registration table (paragraphs 12, 43); and

a control unit, if the terminal is the registered terminal, placing the terminal under a communicable status using the specific base station, and if not, placing the terminal under an incommunicable status using the specific base station (paragraphs 45, 46; the core network determines whether the terminal is permitted or not permitted to register in the location area)

wherein the terminal is constructed so as to transmit a location updating request when system broadcast information (cells broadcast location areas) containing a location area identifier received from a base station is changed due to an inter-cell movement (paragraphs 33, 43; mobile terminal performs location update when entering a new location area), and

However, Hogan does not explicitly teach the terminal status control system further comprises:

a giving unit giving the specific base station the system broadcast information containing a location area identifier for the specific base station that is different from location area identifiers broadcasted in cells adjacent to the cell of the specific base station as a location area identifier that the specific base station broadcasts in the cell thereof, and

wherein the giving unit is provided in a base station control apparatus that manages and controls the specific base station,

the base station control apparatus includes a conversion unit converting a location area identifier of a location area, to which the specific base station belongs, the location area identifier being received from a location management apparatus managing the location of each terminal existing in the location area, into a unique location area identifier for the specific base station to make the system broadcast information containing the unique location area identifier,

wherein the base station control apparatus includes a conversion table for the conversion unit converting the location area identifier managed by the location management apparatus into the unique location area identifier of the specific base station, and the giving unit gives, the broadcast information containing the unique location area identifier converted by the conversion unit to the specific base station.

Minagawa teaches a giving unit giving the specific base station a location area identifier (zone code) for the specific base station that is different from location area

identifiers broadcasted in cells adjacent to the cell of the specific base station as a location area identifier that the specific base station broadcasts in the cell thereof (column 3, lines 53-59; figure 1), and

wherein the giving unit is provided in a base station control apparatus (control station) that manages and controls the specific base station (figure 1, item 1),

the base station control apparatus (control station and database) includes a conversion unit converting a location area identifier of a location area (location registration area table in database), to which the specific base station belongs, the location area identifier being received from a location management apparatus (database) managing the location of each terminal existing in the location area, into a unique location area identifier for the specific base station to make the system broadcast information containing the unique location area identifier (column 3, lines 53-59; column 4, lines 20-25, 32-38; column 5, lines 50),

wherein the base station control apparatus includes a conversion table (location registration area table) for the conversion unit converting the location area identifier (zone code) managed by the location management apparatus into the unique location area identifier of the specific base station (location registration area), and the giving unit gives, the broadcast information containing the unique location area identifier converted by the conversion unit to the specific base station (column 3, lines 53-59; column 4, lines 20-25; column 5, lines 27-34).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Hogan, to include a controller that

gives location area identifiers to specific base stations and converts the area identifiers to identifiers for the specific base stations as taught by Minagawa, in order to dynamically adjust the size of the location areas for registration which in turn suppresses location registration traffic and increases network resources.

Regarding claim 2, Hogan teaches with reception of a location updating request transmitted from the terminal as a trigger, the judging unit judges whether the terminal is the registered terminal by acquiring base station specifying information for specifying the base station that received the location updating request from the terminal and identification information of the terminal, and judging whether the base station specifying information and the terminal identification information are registered in the registration table, and

if the terminal is the registered terminal, the control unit approves the location updating request from the terminal, and if not, rejects the location updating request from the terminal (paragraphs 45, 46).

Regarding claim 21 Hogan teaches the terminal status control system further comprises:

an internet protocol (IP) interface portion that is provided between the specific base station and the base station control apparatus that manages and controls the specific base station and performs IP communication there between (figure 6; connections between RNC and base stations), and

an apparatus that is provided between the base station control apparatus and a switchboard of a network including other base station control apparatuses and the

location management apparatus, and performs conversion between the IP interface and another interface applied to the switchboard (figure 6, item 20; GPRS node).

Regarding claim 26, Hogan teaches the specific base station is connected to the base station control apparatus via an Internet service provider network (figure 6, item 14).

5. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hogan et al. (US 2003/0040314) (hereinafter Hogan) in view of Minagawa (US 6,510,318) as applied to claim 1 above, and further in view of Tsukagoshi (US 6,058,311).

Regarding claim 8, the combination of Hogan and Minagawa teaches the limitations of claim 1 and teaches the registration table and the judging unit are provided in the base station control apparatus, and

the judging unit acquires the identification information of the specific base station managed by the base station control apparatus as the base station specifying information (paragraph 43),

However, the combination does not teach if identification information of the terminal contained in the location updating request received from the specific base station by the base station control apparatus is temporary identification information, acquires identification information unique to the terminal by inquiring of the terminal, and judges whether the base station specifying information and the identification information unique to the terminal are registered in the registration table. Tsukagoshi teaches

identification information of the terminal contained in the location updating request received from the specific base station by the base station control apparatus is temporary identification information, acquires identification information unique to the terminal by inquiring of the terminal, and judges whether the base station specifying information and the identification information unique to the terminal are registered in the registration table (column 3, lines 10-37). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Hogan and Minagawa to include the use of temporary identifiers for location updates, as taught by Tsukagoshi, in order to add security when subscriber information is sent to the network preventing an outsider from discovering the unique identifier of the mobile station.

Regarding claim 9, Hogan teaches the base station control apparatus receives the location updating request from the specific base station, the judging unit performs the judging processing before the location updating request is transmitted to the location management apparatus, and if it is judged as a result of the judgment by the judging unit that use of the specific base station is allowable, the base station control apparatus transmits the location updating request to the location management apparatus, and if not, transmits updating rejection to the terminal with respect to the location updating request (paragraphs 45, 46).

6. Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hogan et al. (US 2003/0040314) (hereinafter Hogan) in view of Minagawa (US

6,510,318) as applied to claim 1 above, and further in view of Saada et al. (US 6,493,555) (hereinafter Saada).

Regarding claim 13, the combination of Hogan and Minagawa teaches the limitations set forth in claim 1, but does not explicitly teach that the base station control apparatus that controls the specific base station uniformly rejects handover requests from other base station control apparatuses. Saada teaches the cooperation of BSCs in determining whether a handover request should be accepted or rejected (column 2, lines 14-51). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Hogan and Minagawa to include the capability to reject or accept handover requests from other BSCs, as taught by Saada, in order to improve cooperation of entities of the network during handover.

Regarding claim 14, the combination of Hogan and Minagawa teaches the limitations set forth in claim 1, but does not explicitly teach with respect to a handover request from another base station control apparatus, the base station control apparatus that controls the specific base station judges whether a terminal that is a target of the handover request is the terminal allowed to use the specific base station based on registration contents of the registration table, wherein if the target terminal is the allowed terminal, the base station control apparatus approves the handover request, and if not, rejects the handover request. Saada teaches the base station control apparatus that controls the specific base station judges whether a terminal that is a target of the handover request is the terminal allowed to use the specific base station based on registration contents of the registration table, wherein if the target terminal is the allowed

terminal, the base station control apparatus approves the handover request, and if not, rejects the handover request (column 2, lines 14-51). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Hogan and Minagawa to include the capability to reject or accept handover requests from other BSCs, as taught by Saada, in order to improve cooperation of entities of the network during handover.

Allowable Subject Matter

7. Claims 6, 7, 10-12, and 15 are allowed.

8. Claim 5 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

9. Applicant's arguments filed 7/23/09 have been fully considered but they are not persuasive.

Regarding claim 1, Applicant asserts that the combination of Hogan and Minagawa does not teach the base station control apparatus includes a conversion unit converting a location area identifier of a location area, to which the specific base station belongs, the location area identifier being received from a location management apparatus managing the location of each terminal existing in the location area, into a unique location area identifier for the specific base station to make the system

broadcast information containing the unique location area identifier. The Examiner respectfully disagrees and submits that the aforementioned limitations are taught by Minagawa. The “base station control apparatus” is rendered by the combination of the control station (column 3, lines 40-47) and the database. In this combination, the “conversion unit” is rendered by the location registration area table stored in the database because this is where the location registration areas (unique location area identifiers of the specific base stations) and the respective base station zone codes (location area identifiers) that make up the location registration areas are stored. Using the location registration area table, the control station is able to know or convert location registration areas into zone codes and vice versa. The database renders the "location management apparatus" because it includes a location registration acceptance table which stores location registrations made by each mobile station thus “managing” the locations of terminals (column 4, lines 32-39).

In operation, when location registration areas are to be restructured, the control station receives a “converted” location area identifier from the database in order to notify base stations of their new location codes to be broadcast (figure 6). The newly received location code is "converted" because the database holds the conversion between the location registration areas and base station zone codes because the previous location registration areas are converted into the new ones. When the control station receives the new location codes, it transmits them to respective base stations for broadcast. The broadcast of the new location codes renders the "broadcast information containing the unique location area identifier". Therefore when a base station is assigned a location

registration area, it is given a unique location area identifier that was converted based on a desired coverage area for the location registration area. For these reasons the rejection of independent claim 1 has been maintained.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NAM HUYNH whose telephone number is (571)272-5970. The examiner can normally be reached on 8 a.m.-5 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, George Eng can be reached on 571-272-7495. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/George Eng/
Supervisory Patent Examiner, Art Unit 2617

/Nam Huynh/
Examiner, Art Unit 2617